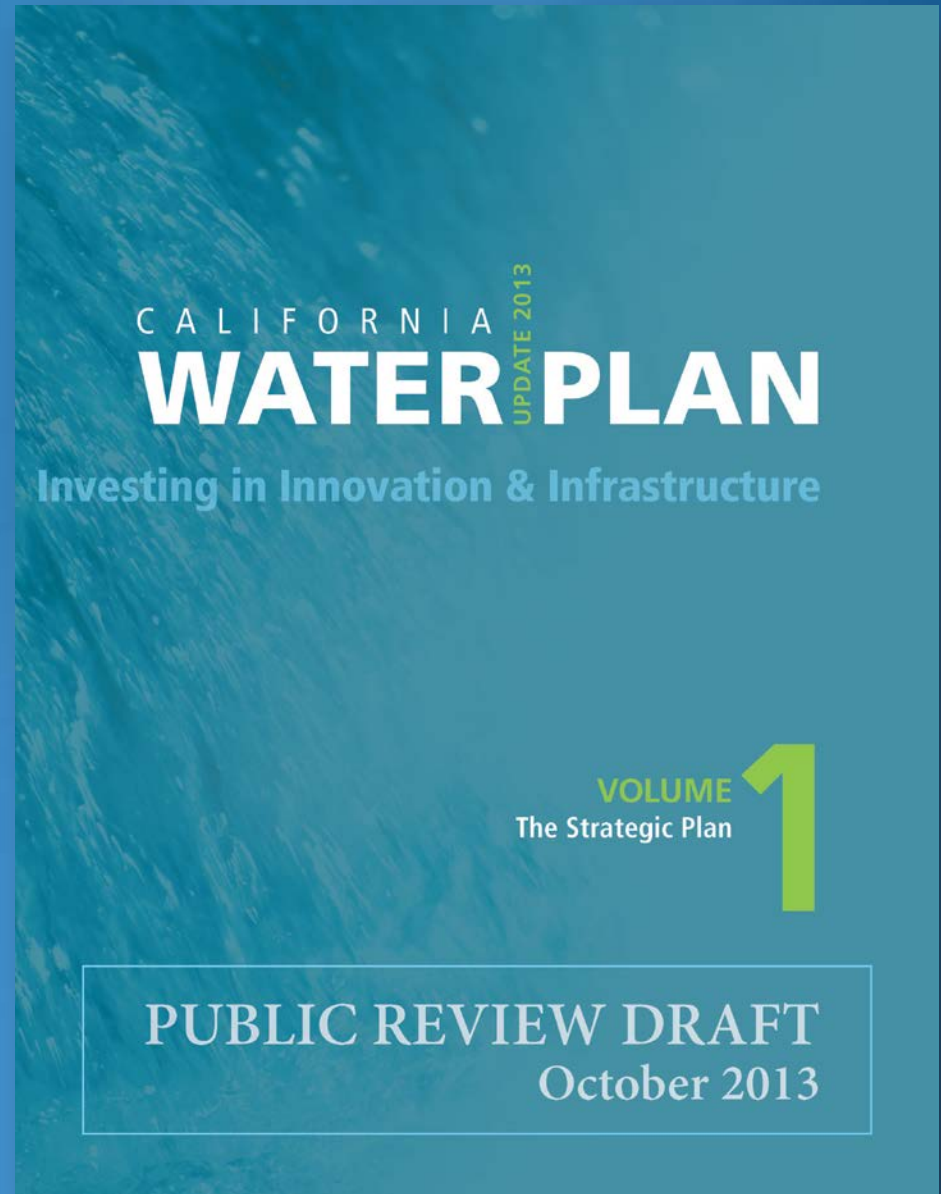


Public Review Draft Overview *Chapters 1 - 4*

California Water Plan Plenary

October 29, 2013



Plenary PRD Review Sessions

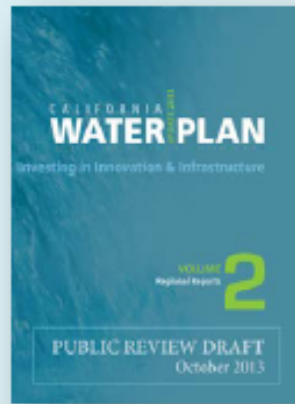
Plenary Sessions by Water Plan Volume

The Strategic Plan



Day	Chapter	Time
1	1 – 4:	10:15 a.m.
2	5 & 6	9:50 a.m.
1	7	4:00 p.m.
2	8	1:30 p.m.

Regional Reports



Topic	Day	Time
Content	1	10:15 a.m.
Specific Regions	2	9:50 a.m.
Outreach	2	11:15 a.m.

Resource Management Strategies



Topic	Day	Time
General	1	1:50 p.m.
Outreach	2	7:30 a.m.
Ag Land	2	9:50 a.m.
Culture	2	9:50 a.m.
DeSal	2	11:15 a.m.

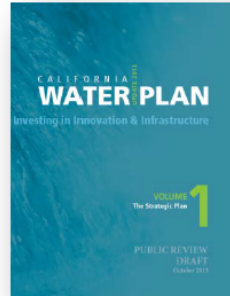
Navigating Update 2013

Navigating Water Plan Update 2013

California Water Plan Update 2013 (Update 2013) provides a wide range of information, from a detailed description of California's current and potential future conditions to a "Roadmap For Action" intended to achieve desired benefits and outcomes. Update 2013 applies at statewide, regional, and local scales, and serves to advise a diverse audience, including elected officials, planners and resource managers, tribal governments and communities, academia, and the general public. The plan is organized in five volumes. Volumes 1, 2, and 3 are outlined below. The *Highlights* booklet, Volume 4, *Reference Guide*, and Volume 5, *Technical Guide*, will be released with the Final Update 2013 document in March 2014.

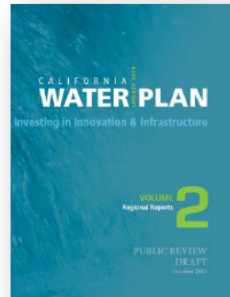
Volume 1, The Strategic Plan

- Executive summary.
- Call to action, new features for Update 2013, progress toward implementation.
- Update 2013 themes.
- Comprehensive picture of current water, flood and environmental conditions.
- Strengthening government alignment and water governance.
- Planning (data, analysis and public outreach) in the face of uncertainty.
- Framework for financing the California Water Plan.
- Roadmap for Action – Vision, mission, goals, principles, objectives & actions.



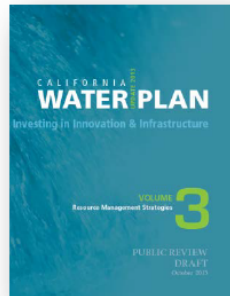
Volume 2, Regional Reports

- State of the region — watersheds, groundwater aquifers, ecosystems floods, climate, demographics, land use, water supplies and uses, governance.
- Current relationships with other regions and states.
- Accomplishments and challenges.
- Looking to the future — future water demands, resource management strategies, climate change adaptation.



Volume 3, Resource Management Strategies

- Integrated Water Management Toolbox
- 30+ management strategies to:
- Reduce water demand.
 - Increase water supply.
 - Improve water quality.
 - Practice resource stewardship.
 - Improve flood management.
 - People & water.



Water Plan Update 2013 Story (1)

- Recent investment has yielded benefits, however
- Many water conditions and trends in many areas of California need improvement
- Significant threats to future prosperity (public safety, environment and economy)
- All Californians (*and the Nation*) have a stake

Water Plan Update 2013 Story (2)

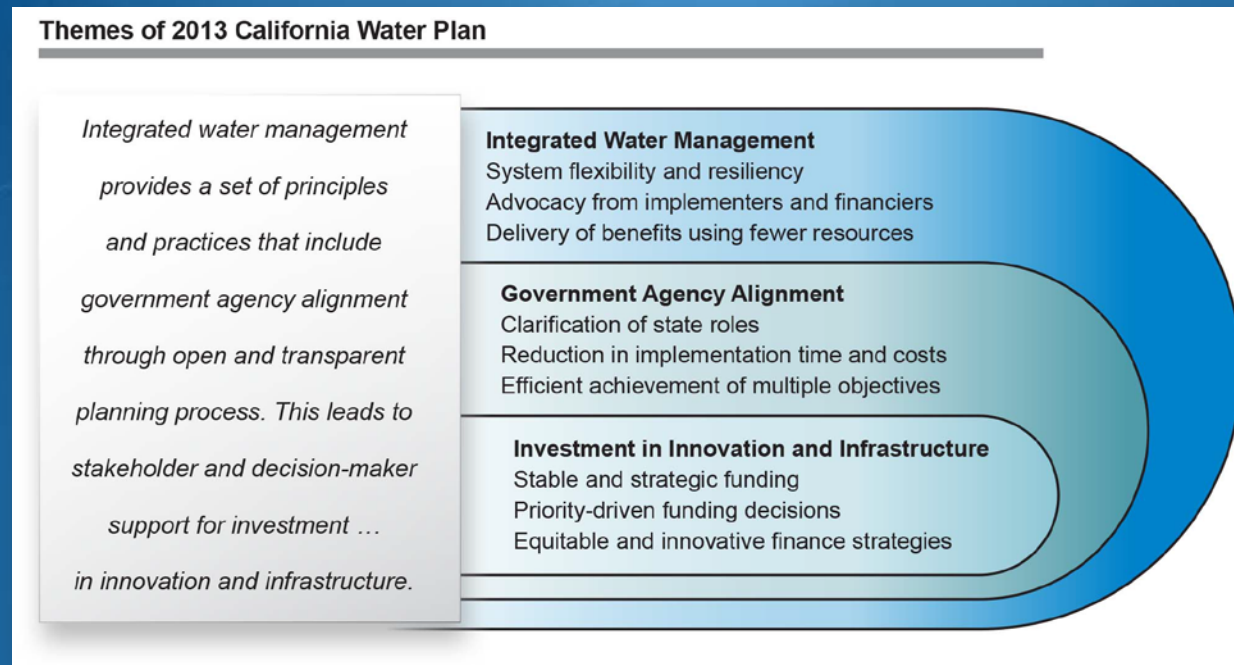
- State and federal governments funded less than 10% of all IWM investment
- State and federal roles and public funding are changing and must be clarified
- Collaboration is required to manage wide diversity of Californians' values and priorities

Water Plan Update 2013 Story (3)

- State government needs to improve methods (and public support) and funding stability to meet its obligations, commitments and responsibilities
 - Protect public trust assets
 - Implement statewide or interregional infrastructure
 - Meet basic public health and safety needs for all Californians
 - Planning, policy research, and technical assistance

Water Plan Update 2013 Story (4)

- Effective solutions require:
 - More integrated planning and management
 - Better government agency alignment
 - More disciplined, strategic and stable investment in innovation and infrastructure



Volume 1 Chapters

- Chapter 1 - *Planning for Environmental, Economic, and Social Prosperity*
- Chapter 2 – *Imperative to Invest in Innovation and Infrastructure*
- Chapter 3 - *California Water Today*
- Chapter 4 – *Strengthening Government Alignment*

Volume 1 Chapters (Continued)

- Chapter 5 - *Managing an Uncertain Future*
- Chapter 6 – *Integrated Data and Analysis: Informed and Transparent Decision-Making*
- Chapter 7 – *Finance Planning Framework*
- Chapter 8 – *Roadmap For Action*

Chapter 1

Planning for Environmental, Economic, and Social Prosperity

Integrated Water Management

System flexibility and resiliency
Advocacy from implementers and financiers
Delivery of benefits using fewer resources

Government Agency Alignment

Clarification of state roles
Reduction in implementation time and costs
Efficient achievement of multiple objectives

Investment in Innovation and Infrastructure

Stable and strategic funding
Priority-driven funding decisions
Equitable and innovative finance strategies

Update 2013 Public Review Draft Planning for Prosperity - Chapter Purpose

- **Convey urgency**
- **Identify key challenges**
- **Underscore the need to invest in integrated water management (IWM)**
- **Preview key features and themes of Update 2013**

Update 2013 Public Review Draft Planning for Prosperity - Key Messages

- Current investments cannot sustain our personal safety, financial stability, and way of life
- Urging the avoidance of foreclosure on our future prosperity
- Foundational features of the Water Plan
- New features for Update 2013
- Water Management Progress Report

Update 2013 Public Review Draft

Chapter 1: 12 New and Expanded Features

- Finance Planning Framework
- Groundwater conditions and management
- CA Water Management Progress Report
- Flood management
- Land use
- Surface and groundwater quality
- New resource management strategies (RMSs)

Update 2013 Public Review Draft

Chapter 1: 12 New and Expanded Features

- Surface and groundwater quality
- New resource management strategies (RMSs)
- Surface and groundwater quality
- Water technology and science
- Expanded outreach and collaboration
- Sustainability indicators

Chapter 1

Foundational Features

Figure 1-2 Foundational Components of the 2013 California Water Plan

Strategic Plan Volume 1	<ul style="list-style-type: none">• Goals, Objectives and Related Actions• State and Federal Companion Plans• Water Portfolios• Future Scenarios
Regional Reports Volume 2	<ul style="list-style-type: none">• Reports for 10 Hydrologic Regions• Reports for 2 areas with common water interests
Resource Management Strategies Volume 3	<ul style="list-style-type: none">• Reports for 30 resource management strategies
Reference Guide Volume 4	<ul style="list-style-type: none">• Detailed reference material related to information presented in Volumes 1, 2, and 3
Technical Guide Volume 5	<ul style="list-style-type: none">• Web portal to document assumptions, data, analytical tools, and methods

Chapter 1 – Progress Report

Table 1-1 Progress Report on Implementation of Update 2009

Update 2009 objective	Status	Trend
1. Expand Integrated Regional Water Management	Good	Neutral
2. Use and Reuse Water More Efficiently	Requires attention	Good
3. Expand Conjunctive Management of Multiple Supplies	Requires attention	Good
4. Protect Surface Water and Groundwater Quality	Requires attention	Good
5. Expand Environmental Stewardship	Requires attention	Neutral
6. Practice Integrated Flood Management	Good	Good
7. Manage a Sustainable California Delta	Good	Good
8. Prepare Prevention, Response, and Recovery Plans	Neutral	Requires attention
9. Reduce Energy Consumption of Water Systems and Uses	Neutral	Neutral
10. Improve Data and Analysis for Decision-making	Good	Good
11. Invest in New Water Technology	Good	Good
12. Improve Tribal Water and Natural Resources	Neutral	Requires attention
13. Ensure Equitable Distribution of Benefits	Unavailable	Unavailable

Update 2013 Public Review Draft Planning for Prosperity - Questions

- How can this chapter be improved to more clearly or thoroughly represent the intended message/story?
- What would you add or change to better emphasize a call for action?

Chapter 2



Imperative to Invest in Innovation and Infrastructure

Update 2013 Public Review Draft Imperative to Invest – Chapter Purpose

- Encourage and guide strategic, disciplined investment
- Elaborate on key challenges, lessons learned and Update 2013 themes
- Remove implementation impediments
- Support conversations to clarify future role of State government
- Introduce Update 2013 Roadmap For Action

Update 2013 Public Review Draft Imperative to Invest – Chapter Structure

- A Critical Time to Invest
- Fundamental Lessons Learned (from prior updates)
- Focus of Update 2013 —Three Overarching Themes
- Role of State Government in Integrated Water Management
- Looking to the Future

A Critical Time to Invest

People & Assets at Risk of Drought and Flooding

MULTI-YEAR DROUGHTS OF LARGE-SCALE EXTENT SINCE 1900

1918–1920

1923–1926

1928–1935

1947–1950

1959–1962

1976–1977

1987–1992

2000–2002

2007–2009

(Based on statewide runoff)

Figure 2-2 Types of Flooding

Tsunami Flooding



Example Crescent City, 1964

Engineered Structure Flooding



Example Sweetwater Dam Failure, 1916

Coastal Flooding



Example Point Mugu, 1983

Debris Flow Flooding



Example Laguna Canyon Channel, 1969

Flash Flooding



Example Perris, 1916

Slow Rise Flooding



Examples Yuba City, 1955



Sacramento, 1878



Salinas River Basin, 1969

Alluvial Fan Flooding



Example Borrego Palm Canyon, 1979

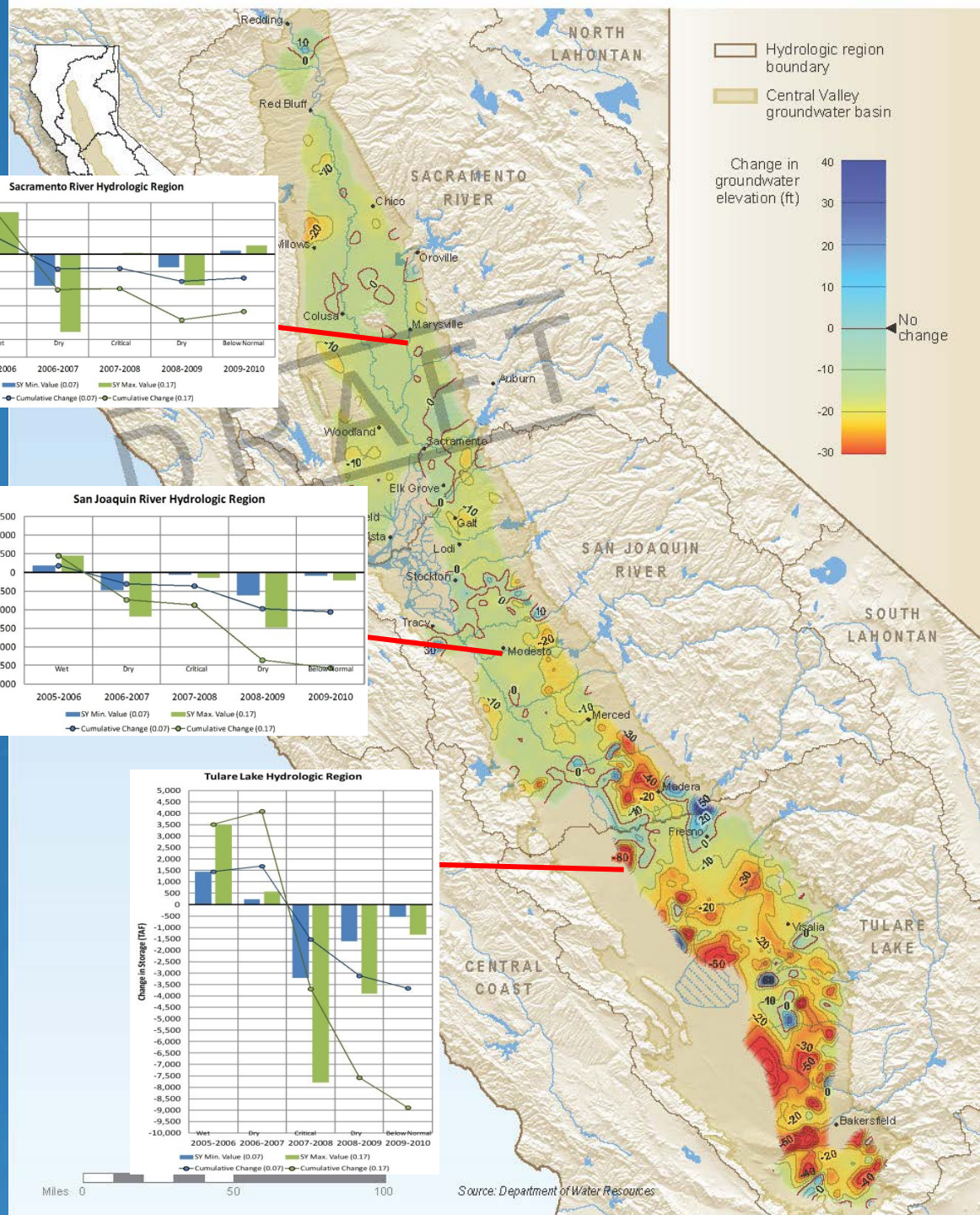
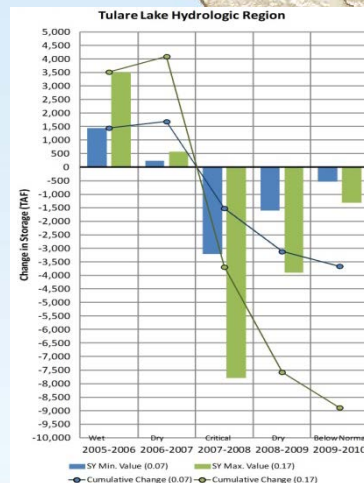
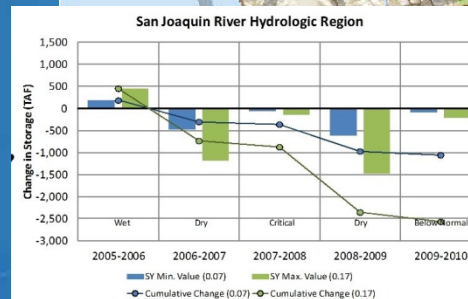
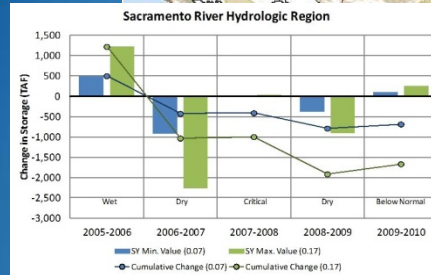
Stormwater Flooding



Example Borrego Springs, 2003

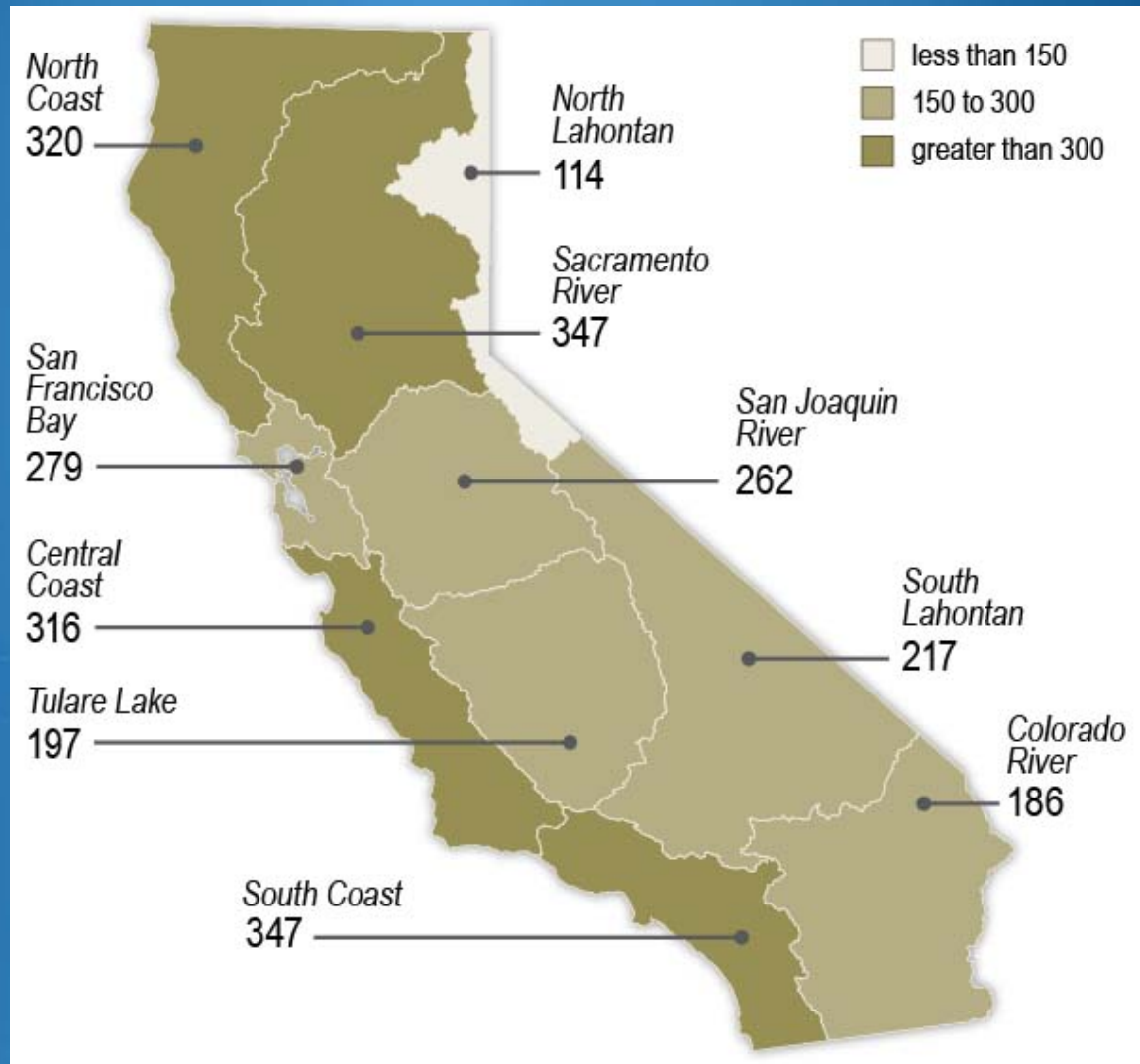
A Critical Time to Invest

5.5 – 13 MAF
Net GW
Extraction
(2005 – 2010)



A Critical Time to Invest

State and Federal Listed Species



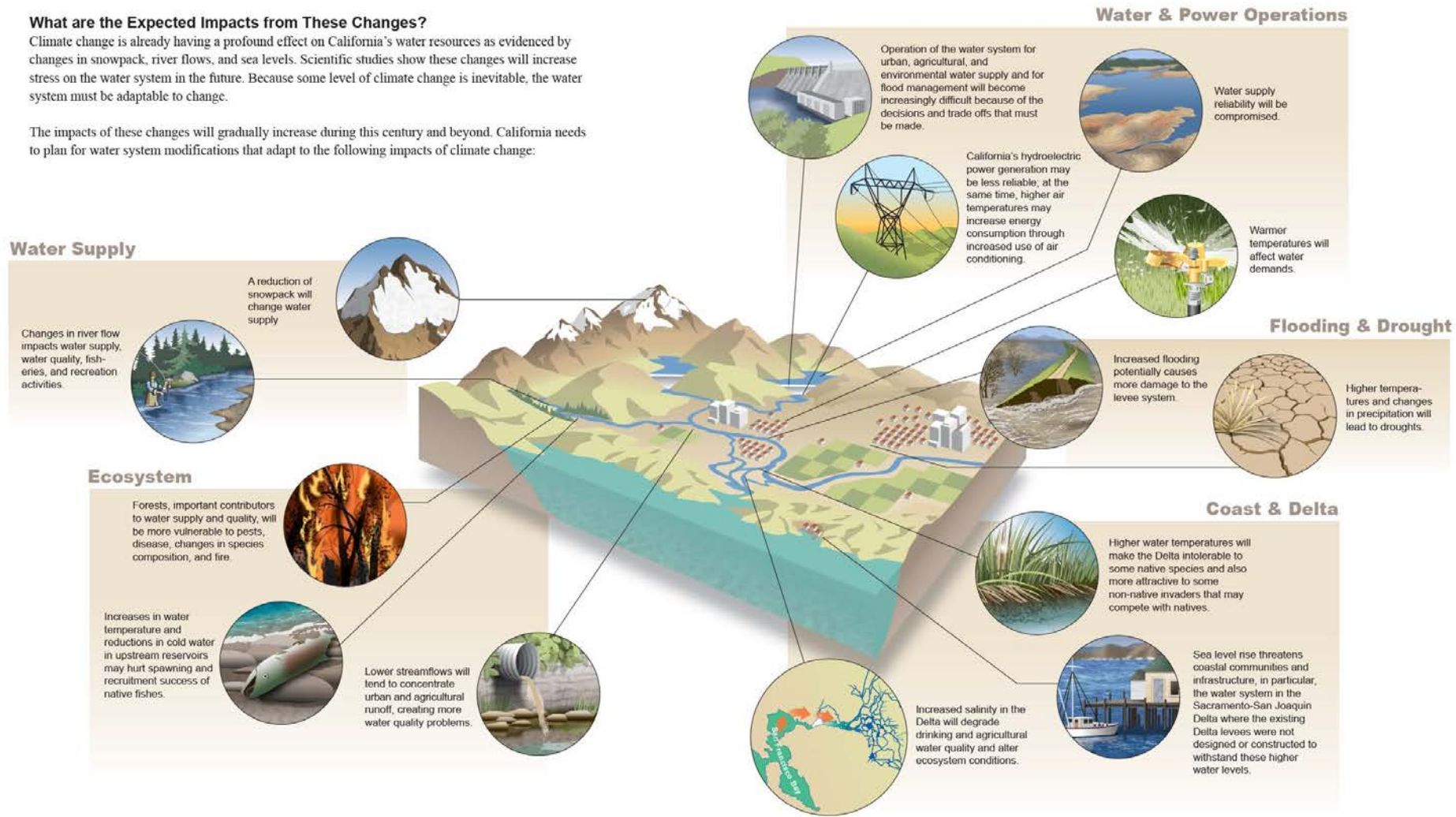
A Critical Time to Invest *Climate Change Effects*

Figure x-x Climate change effects in California

What are the Expected Impacts from These Changes?

Climate change is already having a profound effect on California's water resources as evidenced by changes in snowpack, river flows, and sea levels. Scientific studies show these changes will increase stress on the water system in the future. Because some level of climate change is inevitable, the water system must be adaptable to change.

The impacts of these changes will gradually increase during this century and beyond. California needs to plan for water system modifications that adapt to the following impacts of climate change:



Update 2013 Public Review Draft

Imperative to Invest

Elaborate on strategic approach to problem solving

Themes of 2013 California Water Plan

Integrated water management provides a set of principles and practices that include government agency alignment through open and transparent planning process. This leads to stakeholder and decision-maker support for investment ... in innovation and infrastructure.

Integrated Water Management

System flexibility and resiliency
Advocacy from implementers and financiers
Delivery of benefits using fewer resources

Government Agency Alignment

Clarification of state roles
Reduction in implementation time and costs
Efficient achievement of multiple objectives

Investment in Innovation and Infrastructure

Stable and strategic funding
Priority-driven funding decisions
Equitable and innovative finance strategies

Update 2013 Public Review Draft

Imperative to Invest

Elaborate on strategic approach to problem solving

Project type	Funding type
Self-Funding Programs <i>supported through local users' fees</i>	local
Cost-Sharing Programs <i>supported through a combination of local and public funding</i>	local / public
Public Benefits Programs <i>supported through public funding (State or federal)</i>	public

Update 2013 Public Review Draft Imperative to Invest

- State, regional, and local entities must come together to deliver the resources needed to implement IWM actions
- Sustainable water management requires interaction, cooperation, collaboration, alignment

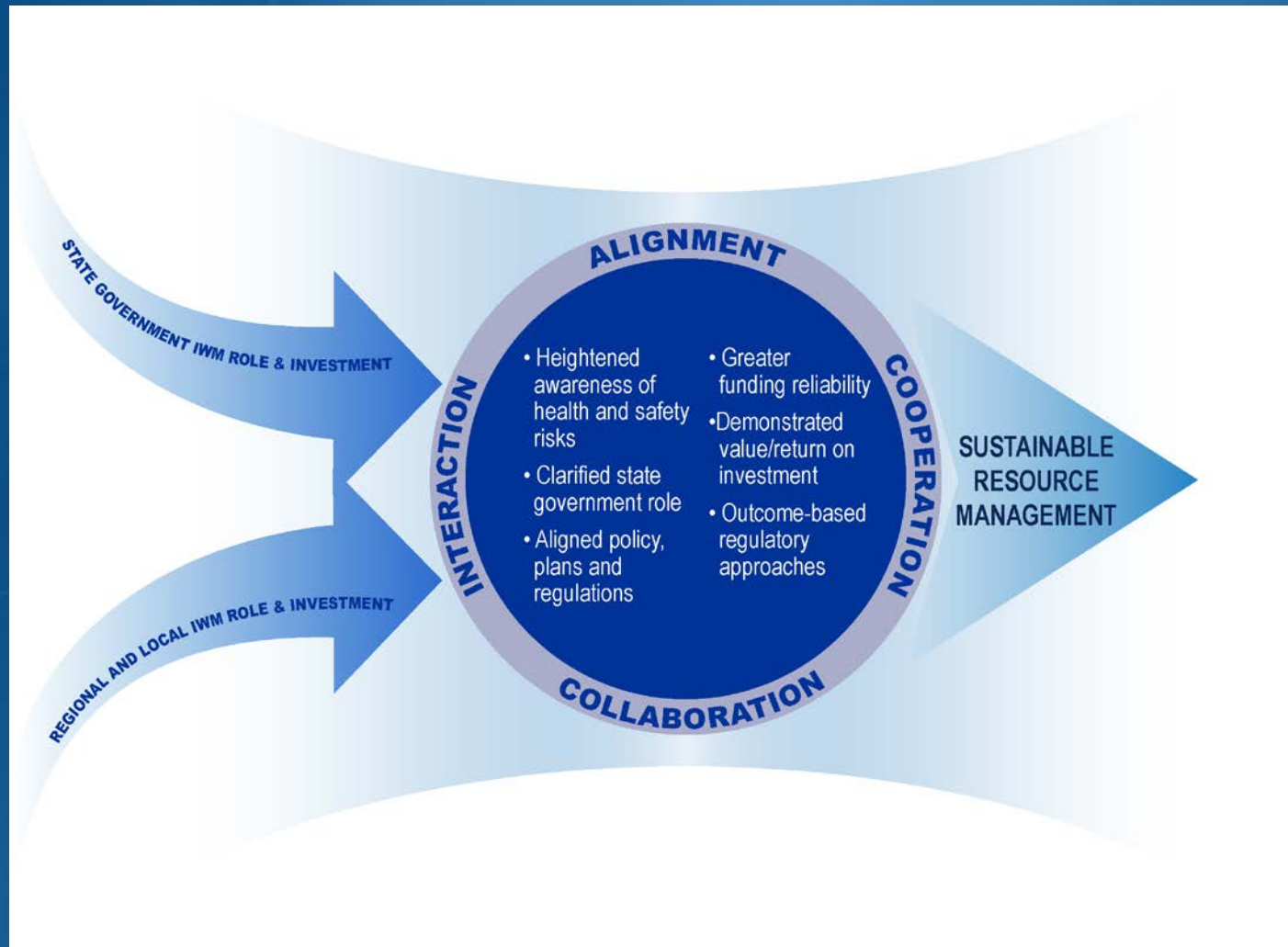
Update 2013 Public Review Draft Imperative to Invest

- Awareness of health and safety risks
- Clarified State government roles
- Aligned policy, plans and regulations
- Greater funding flexibility
- Demonstrated value/return on investment
- Outcome-based regulatory approach

Update 2013 Public Review Draft

Imperative to Invest

Integrated Water Management in Action



Update 2013 Public Review Draft

Chapter 2 – Questions for Reviewers

- How can this chapter be improved to more clearly or thoroughly represent the intended message/story?
- What would you add or change to emphasize that this is a critical time to invest?

Chapter 3



California Water Today

Update 2013 Public Review Draft CA Water Today – Chapter Purpose

- Provide the backdrop of California's water conditions, challenges and current actions to inform and support effective solutions

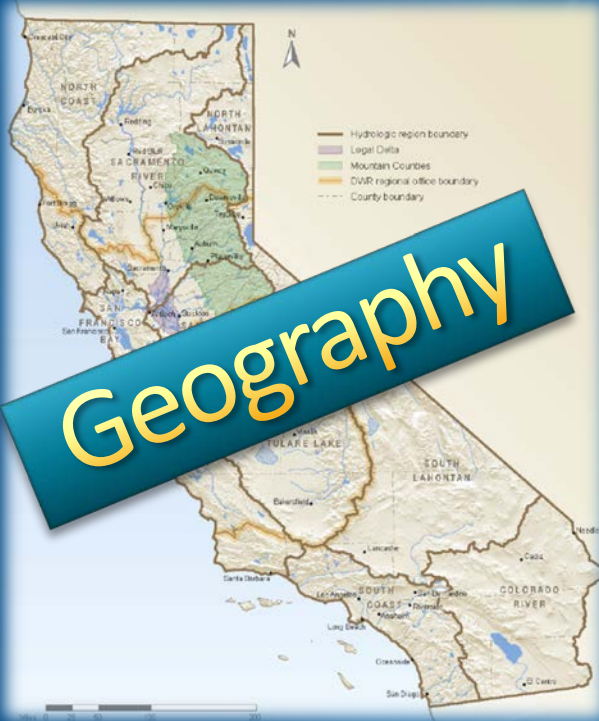
Update 2013 Public Review Draft CA Water Today – Key Messages

- Geophysical and social variability
- Challenges of providing reliable water supplies, reducing flood risks and enhancing ecosystems
- Recent investments and initiatives
- Achievements and emerging opportunities

Update 2013 Public Review Draft CA Water Today – Chapter Structure

- **Planning For Stability Amid Extreme Diversity and Variability**
- **Land Use and Development Patterns**
- **Water Use and Supply Conditions**
- **IWM Funding and Expenditures**
- **Critical Challenges**
- **Responses and Opportunities**

Variability and Diversity



Geography

- Facilitate access to safe drinking water for disadvantaged communities.
- Achieve environmental water quality objectives.
- Control invasive species.
- Control water-borne disease vectors.
- Maintain a reasonably high standard of living and quality of life.
- Create diverse portfolio of climate change adaptation strategies.
- Create and sustain diverse portfolio of water supply sources.
- Enhance economic stability.
- Enhance efficiency of water use and conservation.
- Minimize greenhouse gas emissions from water-related activities.
- Facilitate water recycling and reuse.
- Improve water quality — do no harm.
- Improve water security.
- Restore riparian and groundwater basins, reverse land subsidence, and maintain and improve ecosystem services provided by groundwater.

Values & Priorities

Major Flood Events



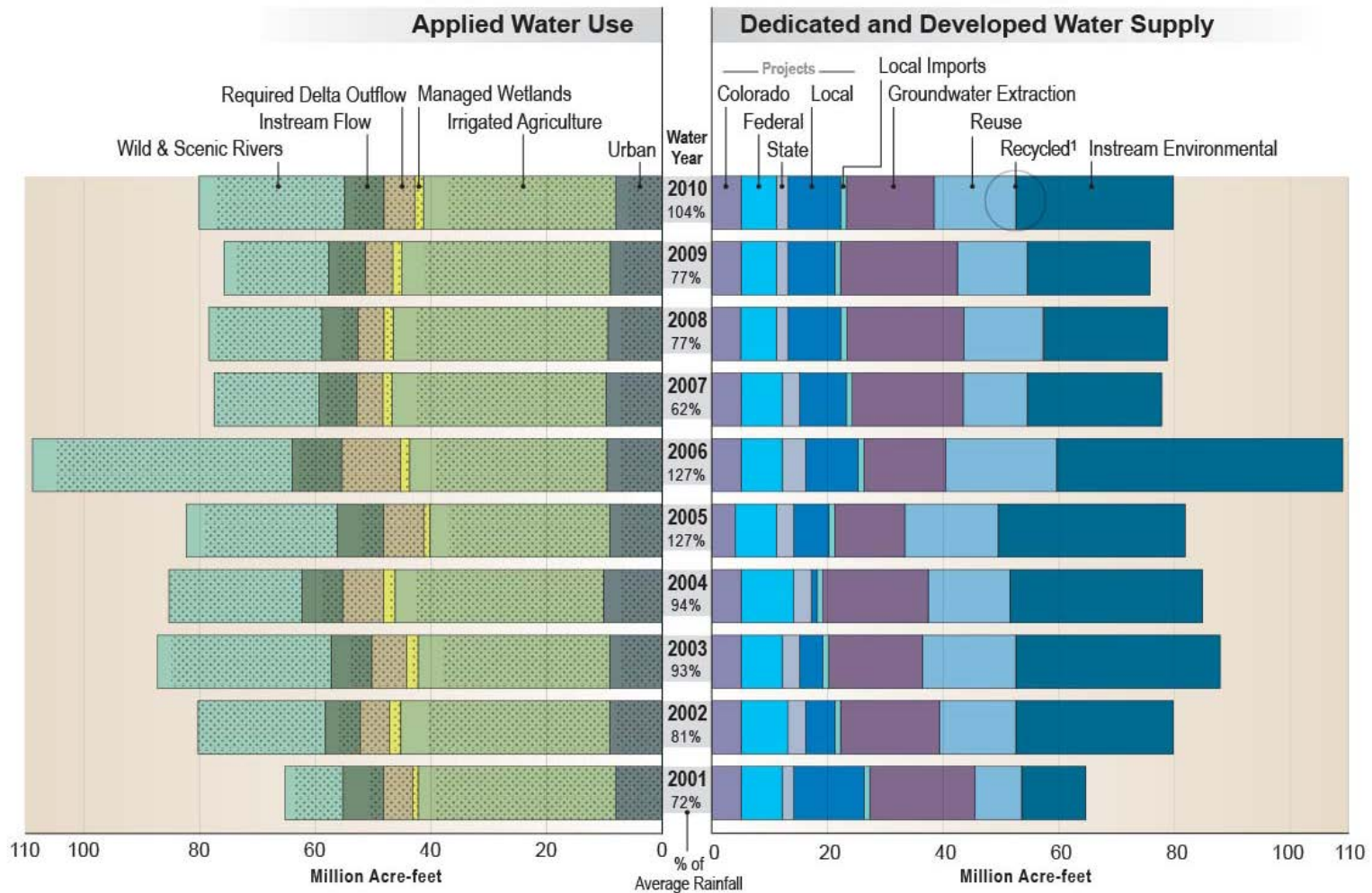
Major Drought Periods

Hydrology

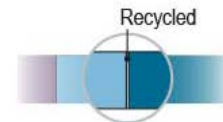


Institutions

Water Uses and Supply Sources (2001 – 2010)

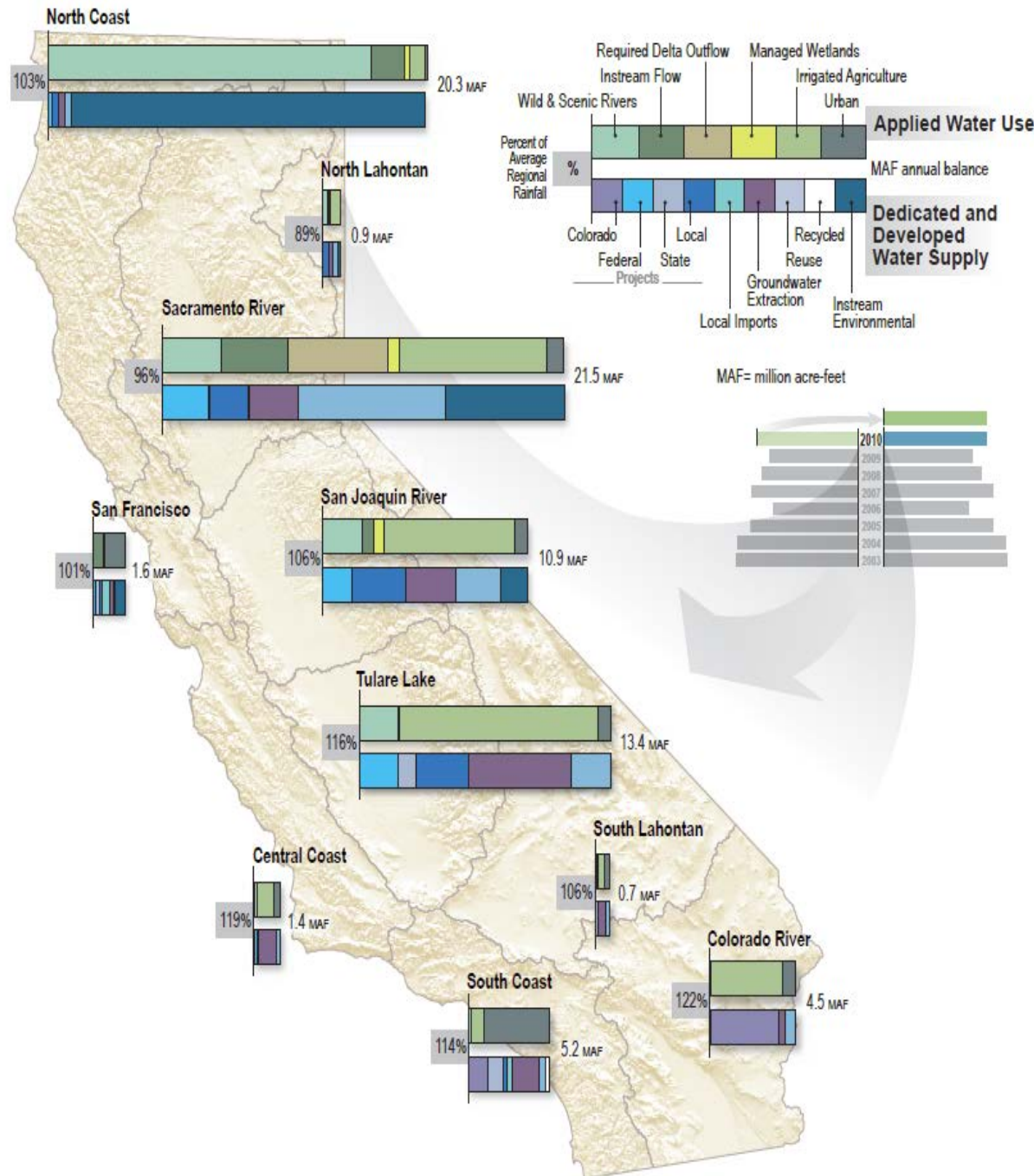


Stippling in bars indicates depleted (irrecoverable) water use (water consumed through evapotranspiration, flowing to salt sinks like saline aquifers, or otherwise not available as a source of supply)

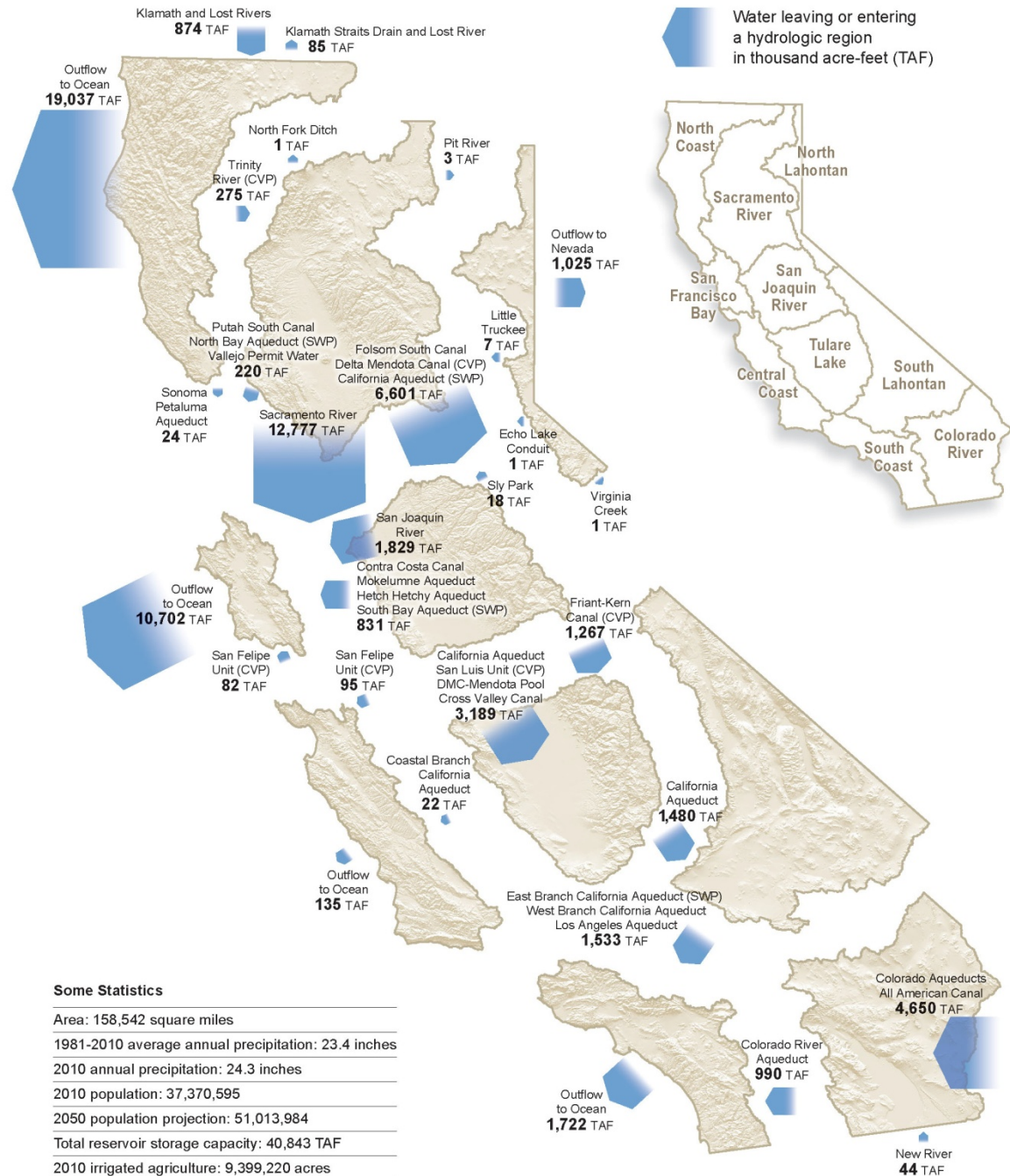


¹ Detail of bar graph: For water years 2001-2010, recycled municipal water varied from 0.2 to 0.5 MAF of the water supply.

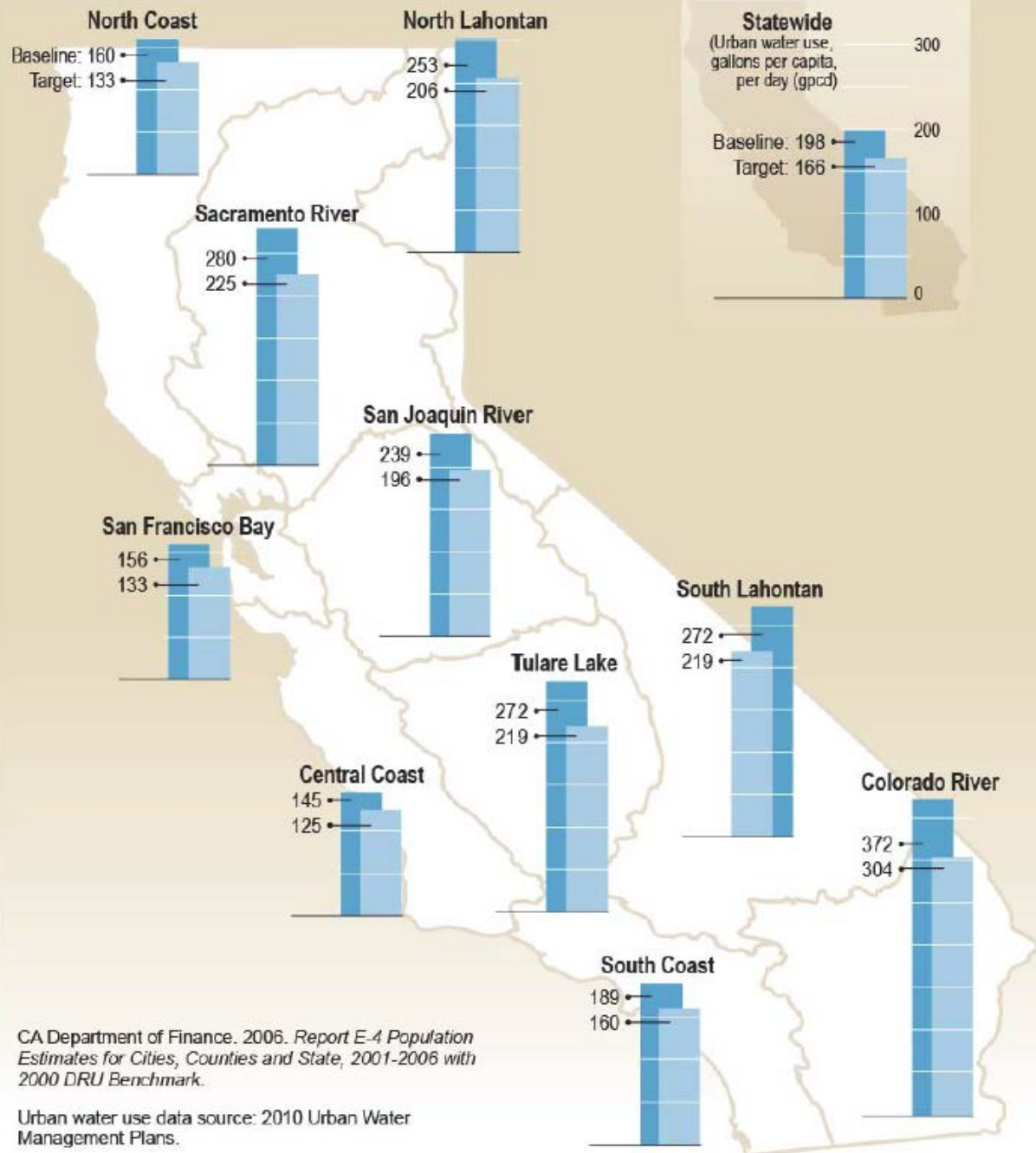
Regional Water Uses and Supplies (2010)



Interregional and Interstate Conveyance



Urban Water Use Baseline and 2020 Target



Climate Change

(Note there is a climate change session today at 1:50 PM)

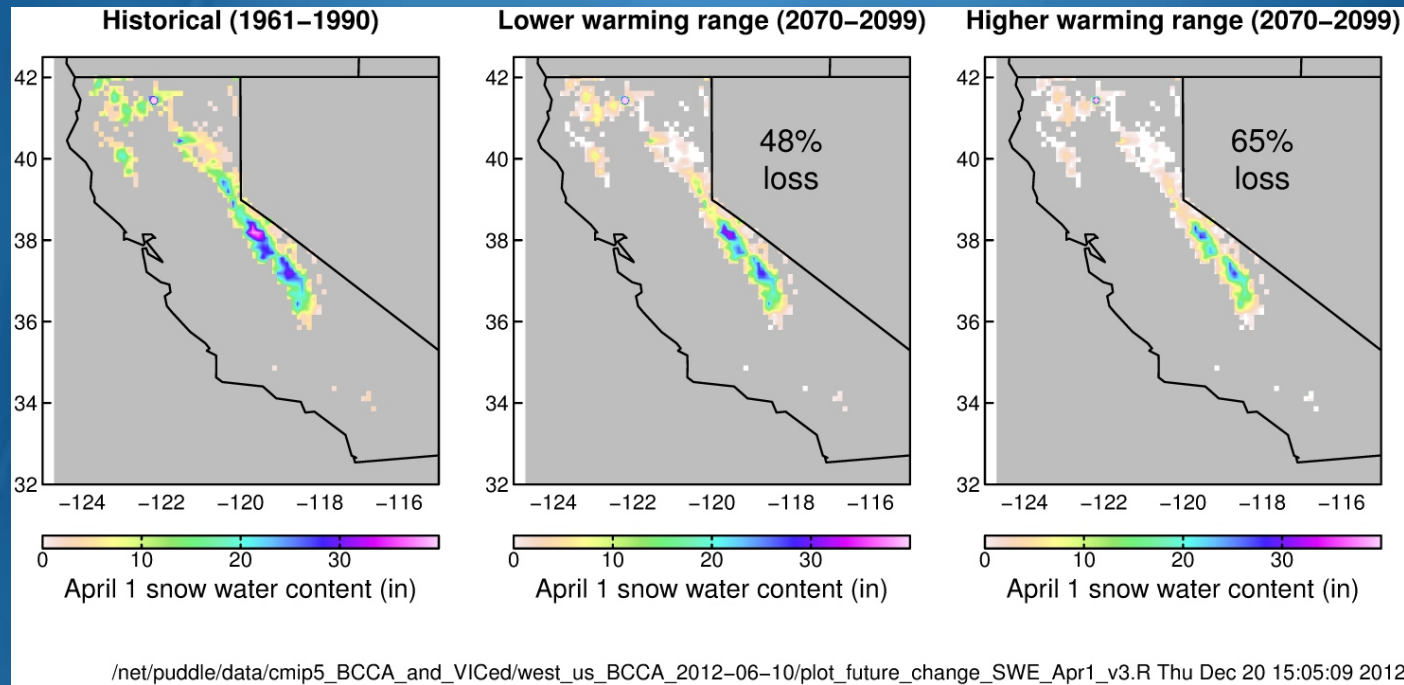
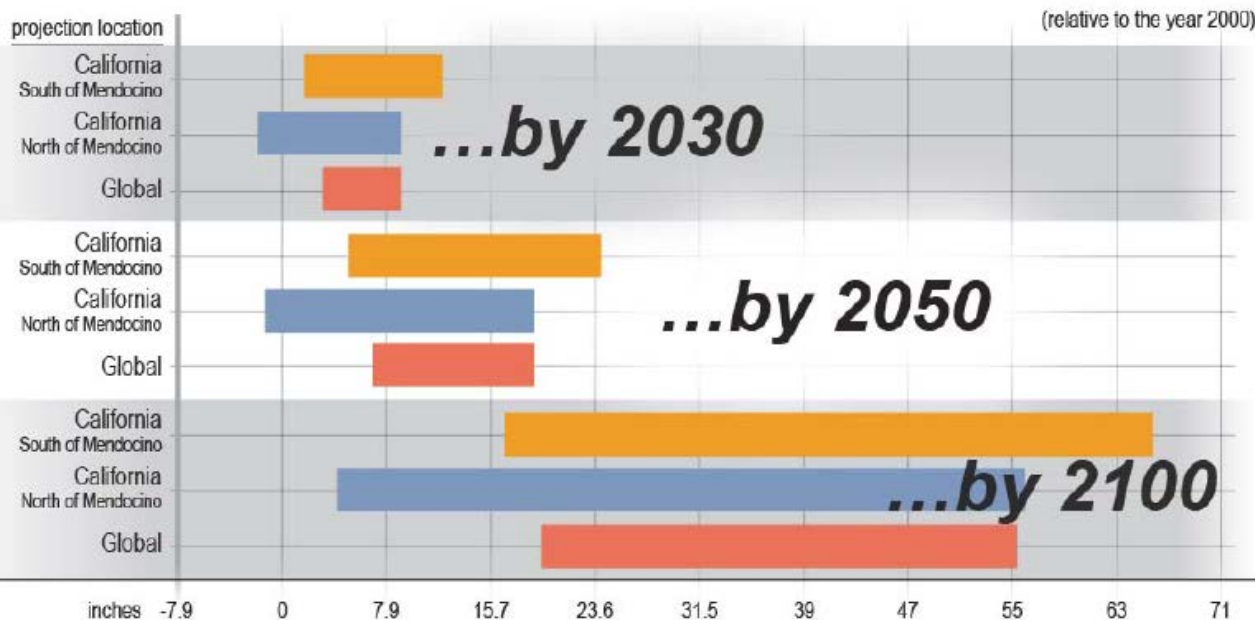


Figure 3-23 Sea Level Rise CA Study Bars



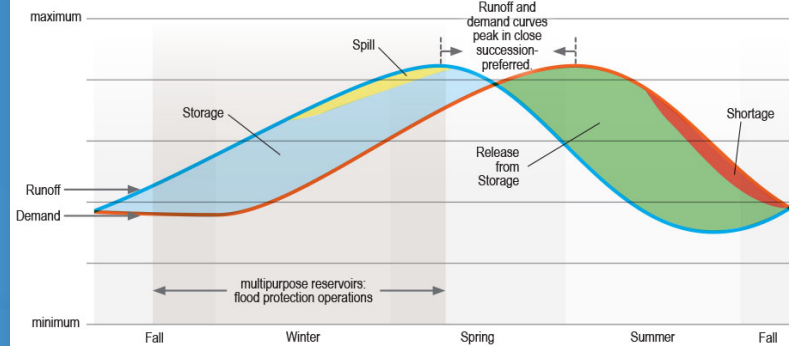
Climate Change

(Note there is a climate change session today at 1:50 PM)

Figure 3-21 How Earlier Runoff Affects Water Availability

The conceptual impact of earlier runoff and increased summertime water demand is shown in the two curves. The curves show the general shape and timing of runoff and demand in California (individual watersheds will each have unique characteristics). Under "Current Conditions" (top box) runoff peaks in early spring only a few months before demand peaks in early summer. Much of the difference between high runoff and low demand in fall and winter can be captured and stored in the state's existing surface and groundwater storage facilities. That storage meets most of the demands later in spring and summer and shortages are minimal. Under "Projected Conditions" (lower box) runoff peaks in mid-winter, months before demand peaks in spring and summer. Summer-time demand is higher due to higher temperatures and high demand lasts longer into early fall due to longer growing seasons. Much of the earlier runoff is captured in storage facilities, but because the runoff arrives while reservoirs are being managed for flood protection, much of the runoff is spilled. In spring and summer demand far exceeds runoff and releases from storage, making shortages much more common.

Current Conditions:



Projected Conditions:

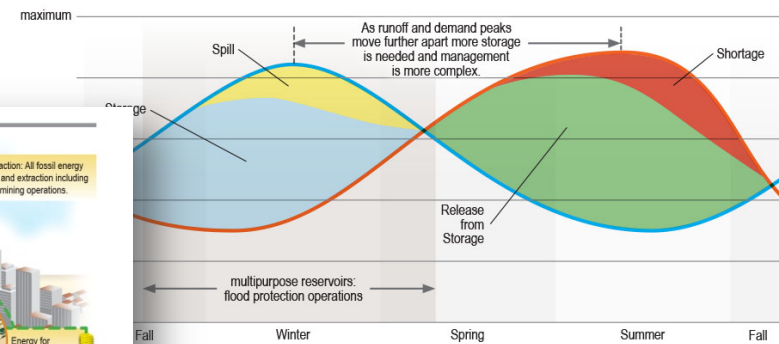
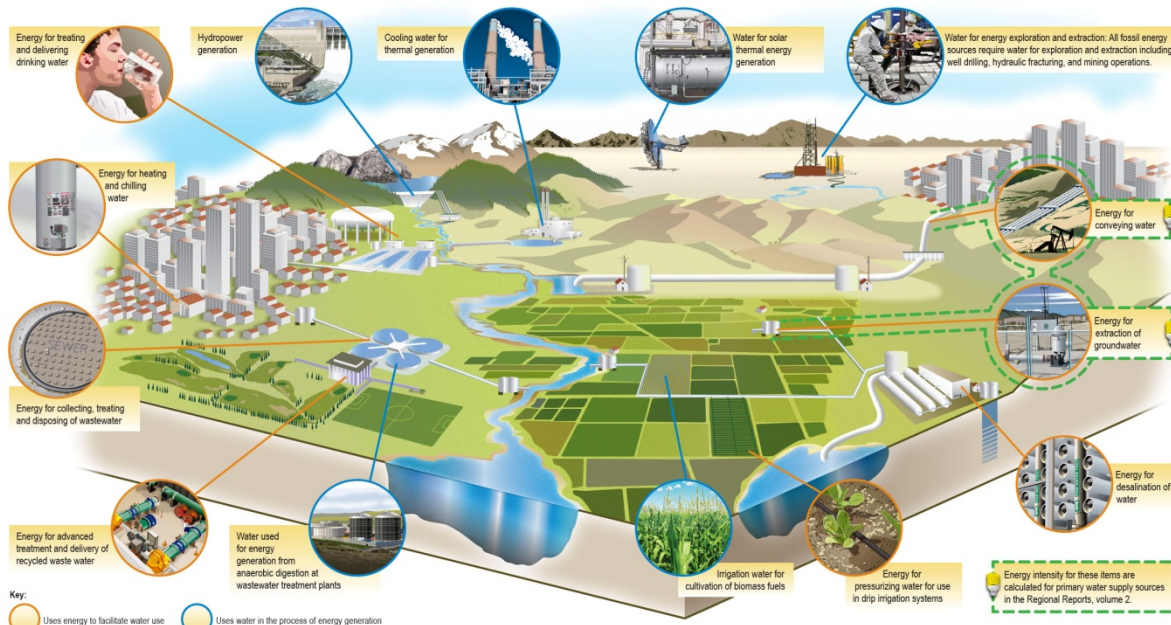


Figure 3-24 The Water and Energy Connection



Update 2013 Public Review Draft

Chapter 3 – Questions for Reviewers

- How can this chapter be improved to more clearly or thoroughly represent the intended message/story?
- Is there anything missing from the comprehensive CA water management picture?

Chapter 4



Strengthening Government Alignment

Update 2013 Public Review Draft Government Alignment – Chapter Purpose

- Enhance understanding of the many California water management laws, policies and agencies
- Provide consistent strategic direction, goals, objectives, and actions across State government programs
- Describe mechanisms leading to alignment of government policies and practices

Update 2013 Public Review Draft Government Alignment – Key Messages

- Many laws, policies and practices do not support IWM
- Many roles and complexity of multiple agencies
- Understanding current complexities is first step in agency alignment
- Establishing principles and goals is second step
- 37 Featured State plans augmented content in Update 2013

Update 2013 Public Review Draft Government Alignment – Chapter Structure

- Water governance and management in CA
- Water Plan State Agency Steering Committee
- Featured State agency plans
 - Informed Roadmap for Action (Ch. 8)
 - Informed Resource Mgmt. Strategies (Vol. 3)
- Implications and considerations

Update 2013 Public Review Draft Government Alignment – Question

- How can this chapter be improved to more clearly or thoroughly represent the intended message/story?

C A L I F O R N I A

WATER PLAN

UPDATE 2013

REVIEWER'S GUIDE

We are pleased to release the **Public Review Draft (PRD) of California Water Plan Update 2013 (Update 2013)** for your review and comment according to this schedule. The content reflects input received from extensive collaboration with hundreds of stakeholders and dozens of State agencies.

Volume	Release Date	Comment Deadline
1. The Strategic Plan	October 2, 2013	November 18, 2013
3. 30 Resource Management Strategies	October 16, 2013	December 2, 2013
2. 12 Regional Reports	October 23, 2013	December 9, 2013

You may access and download the volume chapters in PDF format by using the Web link below. There are three options for sending us your comments — e-mail, fax, or postal mail. An Update 2013 navigation guide is also available to help expedite your review.

- **Public Review Draft Web page:**
<http://www.waterplan.water.ca.gov/cwpu2013/prd>
- **Navigating Update 2013 guide:**
<http://www.waterplan.water.ca.gov/docs/cwpu2013/2013-prd/NavigationGuide-2013PRD.pdf>
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Fax: 916-651-9289
Postal Mail: Attn: Paul Massera
 California Water Plan Update 2013
 California Department of Water Resources
 P.O. Box 942836, Sacramento, CA 94236-0001